

What is claimed is:

1. A flow control device comprising;

an inlet port through which fluid is supplied,

an outlet port through which the fluid is delivered,

5 a valve body which is arranged in a passage between the inlet port and the outlet port so as to open and close the passage, and

a valve body guide means which moves said valve body so as to allow the fluid in said passage to flow at a flow rate which is lower than a basic control rate of said flow control device.

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2. A flow control device according to claim 1, wherein,

said valve body guide means pushes down and pulls up said valve body.

3. A flow control device according to claim 1, wherein,

15 said valve body guide means is arranged along a direction along which said valve body moves.

4. A flow control device according to claim 2, wherein,

20 said valve body guide means is arranged along a direction along which said valve body moves.

5. A flow control device according to claim 1, wherein,

said valve body guide means is arranged coaxial to said valve body.

6. A flow control device according to claim 2, wherein,

25 said valve body guide means is arranged coaxial to said valve body.

7. A flow control device according to claim 1, further comprising a fine controller which controls a range of movement of said valve body.

30 8. A flow control device according to claim 2, further comprising a fine controller which controls a range of movement of said valve body.

9. A flow control device according to claim 5, wherein said valve body guide means comprises a piston which is movable relative to said valve body along an axis of the valve body, and said fine controller controls a moving range of said piston.
- 5 10. A flow control device according to claim 6, wherein said valve body guide means comprises a piston which is movable relative to said valve body along an axis of the valve body, and said fine controller controls a moving range of said piston.
- 10 11. A flow control device according to claim 7, wherein said valve body guide means comprises a piston which is movable relative to said valve body along an axis of the valve body, and said fine controller controls a moving range of said piston.
- 15 12. A flow control device according to claim 8, wherein said valve body guide means comprises a piston which is movable relative to said valve body along an axis of the valve body, and said fine controller controls a range of movement of said piston.
- 20 13. A flow control device according to claim 9, wherein said piston is urged by compressed air.
14. A flow control device according to claim 10, wherein said piston is urged by compressed air.
- 25 15. A flow control device according to claim 11, wherein said piston is urged by compressed air.
16. A flow control device according to claim 12, wherein said piston is urged by compressed air.
- 30 17. A flow control device according to claim 1, wherein a pressure control diaphragm which drives said valve body by a pressure of compressed air which

acts on one face of said pressure control diaphragm and which is driven by said piston.

5 18. A flow control device according to claim 3, wherein a pressure control diaphragm which drives said valve body by a pressure of compressed air which acts on one face of said pressure control diaphragm and which is driven by said piston.

10 19. A flow control device according to claim 8, wherein a pressure control diaphragm which drives said valve body by a pressure of compressed air which acts on one face of said pressure control diaphragm and which is driven by said piston.

15 20. A flow control device according to claim 12, wherein a pressure control diaphragm which drives said valve body by a pressure of compressed air which acts on one face said pressure control diaphragm and which is driven by said piston.